

REMARKS

In response to the non-final Office Action mailed on February 6, 2006, Applicant respectfully requests reconsideration of all rejections in the outstanding Office Action in view of the foregoing amendments and following remarks. Claims 1-52 are currently pending.

I. Request For Interview

In the event that there are any issues left unresolved by this Reply, Applicant respectfully requests an interview with the Examiner prior to issuance of another Office Action. The undersigned can be reached at the number listed below.

II. Allowable Subject Matter

Applicant notes with appreciation the indication on page 8 of the Office Action that claims 11, 17, 18, 25, 26, 34, 36, 40-44, 46, 48, 50, and 51 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, there appears to be a discrepancy in the Office Action Summary, which states claims 42 and 43 are rejected. Applicants have opted to defer rewriting the allowable claims in independent form pending reconsideration of the arguments presented.

III. The Anticipation Rejection Of Claims 1, 2, 4-9, 13-15, 28-33, 35, 37, 38, 43, 45, 47, 49, And 52

Claims 1, 2, 4-9, 13-15, 28-33, 35, 37, 38, 45, 47, 49, and 52 stand rejected under 35 U.S.C. § 102(b), as allegedly being anticipated by U.S. Patent No. 6,134,215 to Agrawal *et al.* (“Agrawal”). *See* Office Action at page 3. Particularly, the Examiner contends that Agrawal discloses every limitation recited in these claims. *Id.* Applicant respectfully disagrees and submits that the rejection is unsustainable in view of the following remarks.

As stated in MPEP § 2131, “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed Cir. 1987).

A. Agrawal Fails To Disclose Encoding Data With A Plurality Of Orthogonal Codes

Agrawal fails to disclose the use of a plurality of orthogonal codes during encoding. Independent claims 1 and 7 (even as originally presented) recite the use of “orthogonal codes,” i.e., more than one orthogonal code. Claim 1 has been amended to further clarify the concept of

plurality as it now recites “encoding data with a set of orthogonal codes, wherein said set of orthogonal codes includes a plurality of n-bit orthogonal codes.” Emphasis added.

Agrawal discloses an information signal S(t) that is channelized through multiplication with a single Walsh function W(t). *See, e.g.*, Agrawal Fig. 2a; column 7, lines 17-26. A Walsh code generator 206 generates an orthogonal covering code desired for channelizing the signal. *See id.* The code W_i(t) from generator 206 is multiplied by or combined with the symbol data in a logic element 202. *Id.* Accordingly, Agrawal’s channelizing process implements only one orthogonal Walsh code.

The Examiner has apparently overlooked the explicit recitation of “orthogonal codes” (i.e., more than one orthogonal codes) in the claims. Whether or not “encoding” is generically defined as “transforming a signal ...” as the Examiner contends through reliance on Wikipedia (*see* Office Action page 2), Agrawal does not encode data with orthogonal codes. Emphasis added. Agrawal discloses an encoding scheme in which an entire data signal is channelized utilizing a single Walsh code. *See, e.g.*, column 7, lines 17 – 26; Fig. 2a (emphasis added). Agrawal states:

“an information signal S(t) is channelized through multiplication with a Walsh function W(t). *Id.* (emphasis added). An orthogonal function or Walsh code generator generates the orthogonal covering code desired for channelizing the signal The code ... is multiplied by or combined with symbol data” Column 7, lines 17-23 (emphasis added).

Thus, Agrawal does not disclose encoding data with orthogonal codes, but rather encoding data with a single orthogonal code.

Unlike the encoding scheme disclosed in Agrawal, Applicant’s specification discusses that, for a single data signal, multiple orthogonal codes are utilized. *See, e.g.*, Applicant’s Specification at page 8, lines 11-16; page 10, lines 12-24; Fig. 7. For example, referring to Fig. 7 and page 10, lines 12-24, a single incoming data signal 772 is encoded by the Walsh Encoder 720. As a result of the encoding scheme, encoded signals are output from the Walsh Encoder 720. *See id.* at Fig. 7. Thus, orthogonality is maintained between the encoded data of a single data signal (i.e., channel) to achieve an increase in processing gain, and hence transmission distance. Agrawal is concerned with maintaining orthogonality between channels and not the

orthogonality between data within one channel, which is a result of encoding with orthogonal codes. These two approaches are fundamentally different.

Since Agrawal does not disclose encoding a data stream with more than one orthogonal code, Agrawal cannot disclose encoding data with orthogonal codes as recited in independent claims 1 and 7. Thus, claims 2, 4-9, and 13-15 are not anticipated by Agrawal at least because they depend from independent claims 1 or 7.

B. Agrawal Fails To Disclose “Encoding A Data Stream According To A Primary Orthogonal Encoding Scheme Employing Primary Codes”

Agrawal fails to disclose each and every element of independent claims 28, 33 and 43. More particularly, independent claims 28, 33 and 43 each recite variations of the “encoding a data stream according to a primary orthogonal encoding scheme employing primary codes.”

As discussed above, and fully incorporated herein, Agrawal does not disclose an encoding scheme that utilizes more than one orthogonal code to encode a data signal. As such, it is impossible for Agrawal to disclose the claimed encoding a data stream according to a primary orthogonal encoding scheme employing primary codes as claimed in independent claims 28, 33 and 43. Claims 29-32, 35, 37, 38, 43, 45, 47, 49, and 52 are allowable at least by their dependency from independent claims 28, 33, or 43.

Accordingly, the Examiner is respectfully requested to withdraw the anticipation rejection of claims 1, 2, 4-9, 13-15, 28-33, 35, 37, 38, 45, 47, 49, and 52.

IV. The Anticipation Rejection Of Claims 16, 20, 23 and 39

Claims 16, 20, 23, and 39 stand rejected under 35 U.S.C. § 102(b), as allegedly being anticipated by U.S. Patent No. 6,937,645 to Nam. *See* Office Action at page 5. Particularly, the Examiner contends that Nan discloses each and every limitation of these claims. Applicant respectfully disagrees and traverses this rejection at least as follows.

Nam fails to disclose “a parallel spread spectrum communication signal encoded with a plurality of orthogonal codes” as recited or similarly recited in claims 16, 20, and 39. Nam has absolutely no disclosure regarding a data signal encoded with orthogonal codes. Nam discloses communication signals where the modulation scheme is varied according to the propagation channel characteristics, and where separated quadrature related I-Q channels are spread with a predetermined PN code. *See* Nam, column 1, lines 28-34. Accordingly, Nam fails to disclose

each and every element of claims 16, 20, 23, and 39. Applicant respectfully requests the Examiner to withdraw this rejection.

IV. The Obviousness Rejections

Claims 3 and 12 stand rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Agrawal. *See* Office Action, page 6. Claim 10 stands rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Agrawal in view of U.S. Patent No. 6,075,793 to Schilling *et al.* ("Schilling"). *See id.* Claims 21, 22 and 24 stand rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Nam. *See id.* at page 7. Claims 19 and 27 stand rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Nam in view of Agrawal. *See id.*

As stated in MPEP § 2143.01, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Schilling fails to cure the deficiencies noted above with respect to Agrawal and Nam. Particularly, Schilling fails to disclose encoding data with a plurality of orthogonal codes as recited in the independent claims. Thus, the proposed combinations fail to teach or suggest every claim limitation recited in the independent claims. Claims 3, 10, 12, 19, 21, 22, 24, and 27 are not obvious at least because they depend from one of the nonobvious independent claims. Accordingly, the Examiner is requested to withdraw these obviousness rejections.

V. Conclusion

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

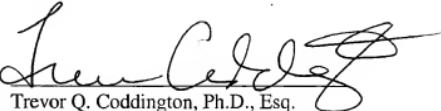
Applicant is concurrently filing herewith a Petition for a Three-Month Extension of Time, along with the requisite fee. In the event that a variance exists between the amount

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tendered and that required by the U.S. Patent and Trademark Office to enter and consider this Reply, or to prevent abandonment of the present application, please charge or credit such variance to the undersigned's Deposit Account No. 50-2613 (Order No. 58685.00009.UTL).

Respectfully submitted,

By:


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